

EXHIBIT 4

U.S. Patent No. 8,228,910 (“the ’910 Patent”) Exemplary Infringement Chart

The Accused MoCA Instrumentalities are instrumentalities that Charter deploys to provide a whole-premises DVR network over an on-premises coaxial cable network, with devices operating with data connections compliant with MoCA 1.0, 1.1, and/or 2.0. The Accused MoCA Instrumentalities include the Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220, and substantially similar instrumentalities. Charter literally and/or under the doctrine of equivalents infringes the claims of the ’910 Patent under 35 U.S.C. § 271(a) by making, using, selling, offering for sale, and/or importing the Accused MoCA Instrumentalities.

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3. A system for transmitting digital data over a network comprising:	<p>The Accused Services are provided using at least the Accused MoCA Instrumentalities including gateway devices (including, but not limited to, the Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, and devices that operate in a similar manner), client devices (including, but not limited to, the Charter Arris DCX3200, Charter Arris DCX3220, and devices that operate in a similar manner), and substantially similar instrumentalities. The Accused MoCA Instrumentalities operate to form a data communication network over an on-premises coaxial cable network as described below.</p> <p>The Charter full-premises DVR network constitutes a system for transmitting digital data over a network as claimed. The Charter full-premises DVR network is a MoCA network created between gateway devices and client devices using the on-premises coaxial cable network. This MoCA network is compliant with MoCA 1.0, 1.1, and/or 2.0.</p> <p>“The MoCA system network model creates a coax network which supports communications between a convergence layers in one MoCA node to the corresponding convergence layer in another MoCA node.”</p>

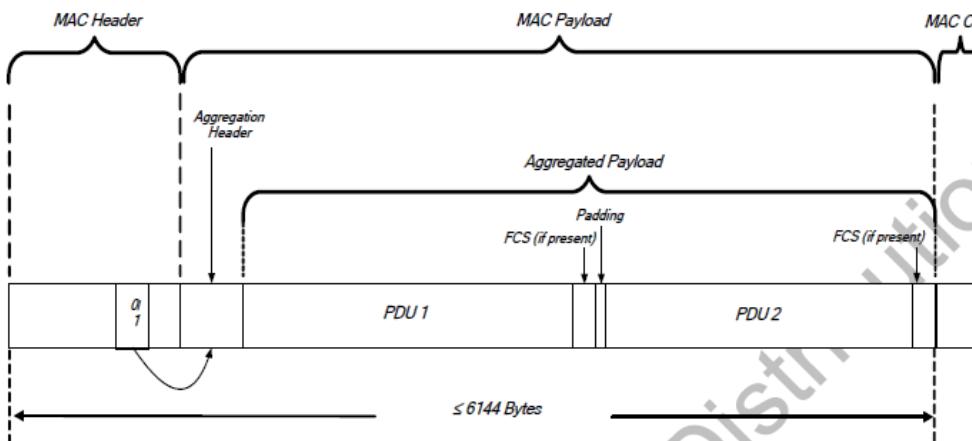
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	<p>(MoCA 1.1, Section 1.1. <i>See also</i> MoCA 2.0, Section 1.2.2)</p> <p>“The MoCA Network transmits high speed multimedia data over the in-home coaxial cable infrastructure.”</p> <p>(MoCA 1.1, Section 2. <i>See also</i> MoCA 2.0, Section 5)</p> <p>Charter utilizes the MoCA standard to provide an on-premises DVR network over an on-premises coaxial cable network as shown below:</p> <p>MoCA Router Connection</p> <p>Figure 5 - A Typical Mixed MoCA/WiFi Home Network</p>

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<p>a transceiver adapted to receive a plurality of packet data units; and</p>	<p>The Accused MoCA Instrumentalities include a transceiver adapted to receive a plurality of packet data units as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules constituting a transceiver adapted to receive a plurality of packet data units.</p> <p>“The MoCA system network model creates a coax network which supports communications between a convergence layer in one MoCA node to the corresponding convergence layer in another MoCA node.” <i>(MoCA 1.1, Section 1.1. See also MoCA 2.0, Section 1.2.2)</i></p>

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	<p>The diagram illustrates a typical in-home cable network. At the top, a 'Root Node' is connected to a 'Multi-Tap'. Below it is an 'N:1 Splitter'. A 'Set Top or TV' is connected to this splitter. A 'NORMAL 2-WAY CATV PATH' is shown as a black line connecting the root node to the splitter. A vertical double-headed arrow indicates a distance of '< 300 feet multi-tap to root node'. Another 'N:1 Splitter' is shown below the first one. A blue line labeled 'SPLITTER JUMPING' connects the output of the first splitter to the input of the second. This second splitter has two outputs: one to a 'Set Top or TV' and another to a 'Cable Modem'. Two 'MoCA Node' boxes are labeled 'A' and 'B'. Box 'A' is connected to the output of the second splitter, and box 'B' is connected to the output of the third splitter. Both boxes are labeled 'MoCA Node'. The network is contained within a cloud labeled 'SPLITTER & WIRING CLOUD'. A vertical double-headed arrow indicates a distance of '< 300 feet, < 25 dB root node to node device.</p> <p>Figure 2-1. A Typical In-home Cable Network (MoCA 1.1, Figure 2-1. See also MoCA 2.0, Figure 1-1)</p>

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	<p>The diagram illustrates the functional blocks of a MoCA MAC implementation. At the top is a box labeled "MoCA Transmissions". Three arrows point downwards from this box to three separate boxes: "Beacon", "MAC Frame", and "Probes". From the "MAC Frame" box, two arrows point downwards to "Ethernet Packet" and a vertical stack of six boxes labeled "Network Admission", "Link Maintenance", "Media Access Plan", "Tx Power Control", "Bandwidth Allocation", and "Link Privacy".</p> <p>Figure 2-3. Functional Blocks of a MoCA MAC Implementation (MoCA 1.1, Figure 2-3. See also MoCA 2.0, Figure 5-2)</p> <p>“Packet aggregation operation reduces the transmitted packet overhead by combining multiple Ethernet PDUs into a single MoCA MAC Frame transmission. This increases throughput by increasing the amount of data that traverses the MoCA Network in one scheduling opportunity.” (MoCA 1.1, Section 3.21. See also MoCA 2.0, Section 7.5)</p>

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<p>a packet aggregation module for identifying at least two of the plurality of packet data units that have a same destination node and for forming an aggregate packet from the at least two of the plurality of packet data units;</p>	<p>The Accused MoCA Instrumentalities include a packet aggregation module for identifying at least two of the plurality of packet data units that have a same destination node and for forming an aggregate packet from the at least two of the plurality of packet data units as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules constituting a packet aggregation module for identifying at least two of the plurality of packet data units that have a same destination node and for forming an aggregate packet from the at least two of the plurality of packet data units.</p> <p>“Figure 3-39 shows the format of a MAC Frame containing aggregated packet payload. The MAC Frame consists of a MAC header, Packet Aggregation Header, and aggregated packet payload and MAC Payload CRC.” (MoCA 1.1, Section 3.21.1. <i>See also</i> MoCA 2.0, Section 7.5)</p>

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	 <p data-bbox="1056 758 1679 783">Figure 3-39. MAC Frame Containing Aggregated Packet Payload</p> <p data-bbox="819 856 1579 889">(MoCA 1.1, Figure 3-39. <i>See also</i> MoCA 2.0, Figure 7-12)</p> <p data-bbox="819 938 1911 1150">“The MAC header (Table A-1) includes the AGGREGATION_CONTROL field which carries the information about the Aggregation Header and whether the PDUs include the ETHERNET FCS. Table 3-70 shows format of the Aggregation Header field. The Aggregation Header has a variable-length, and includes the total number of PDUs being aggregated and the length of each PDU.”</p> <p data-bbox="819 1155 1607 1188">(MoCA 1.1, Section 3.21.1. <i>See also</i> MoCA 2.0, Section 7.5)</p> <p data-bbox="819 1240 1911 1403">“A Node transmitting an aggregated packet MUST only encapsulate Ethernet PDUs that share a common Aggregation ID. A unique Aggregation ID is defined for each unique tuple of {DESTINATION, PRIORITY} fields that would have appeared in the Reservation Request Element representing the PDU alone.”</p>

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	(MoCA 1.1, Section 3.21.2.1. <i>See also</i> MoCA 2.0, Section 7.5)
<p>wherein the transceiver is adapted to transmit the aggregate packet to at least one destination node; and</p>	<p>The transceiver is adapted to transmit the aggregate packet to at least one destination node as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules constituting the transceiver adapted to transmit the aggregate packet to at least one destination node.</p> <p>“Before a Node uses packet aggregation for transmission to another Node, it MUST ensure that the receiving Node is capable of receiving packet aggregation at its level of aggregation by checking the receiving Node’s MOCA_VERSION_NUMBER, and by checking bits 7 and 8 of the receiving Node’s NODE_PROTOCOL_SUPPORT field.”</p> <p>(MoCA 1.1, Section 3.21.2. <i>See also</i> MoCA 2.0, Section 7.5)</p> <p>The transmitting Node MUST indicate the aggregated packet by sending a Reservation Request Element to the NC Node with the DURATION field corresponding to the actual size of the entire Aggregated Packet Frame.</p> <p>(MoCA 1.1, Section 3.21.2.1. <i>See also</i> MoCA 2.0, Section 7.5)</p> <p>“For aggregated packet transmissions to a single receiving Node, the transmitting Node MUST ensure that NPDUs of the aggregated packet is less than or equal to the level of aggregation (see Table 3-6) for the receiving Node.”</p> <p>(MoCA 1.1, Section 3.21.2.1. <i>See also</i> MoCA 2.0, Section 7.5)</p>

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<p>wherein the packet aggregation module identifies the same destination node by identifying a same aggregation identifier.</p>	<p>The packet aggregation module identifies the same destination node by identifying a same aggregation identifier as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules constituting the packet aggregation module identifying the same destination node by identifying a same aggregation identifier.</p> <p>“A Node transmitting an aggregated packet MUST only encapsulate Ethernet PDUs that share a common Aggregation ID. A unique Aggregation ID is defined for each unique tuple of {DESTINATION, PRIORITY} fields that would have appeared in the Reservation Request Element representing the PDU alone.”</p> <p>(MoCA 1.1, Section 3.21.2.1. <i>See also</i> MoCA 2.0, Section 7.5)</p>